

How to produce organic heterogeneous material for sweet corn

Problems

Organic certified sweet corn crops are produced usually with untreated seed from conventional agriculture. The period for seed production is longer, compared to crop production, in the case of sweet corn.

Solutions

Save seeds from Open Pollinated Varieties (OPV) and make new Heterogeneous Material

The easiest way to start organic seed production is to keep old varieties isolated and save ears from them for the next years.

It is very important to select only the kernels that have a translucent appearance, because the common opaque ones show a higher starch level, typical for non-sweet corn varieties.

This can be done in a field, where different populations are pollinating themselves, or through controlled hand pollination. At least 5 cycles are required to obtain a stable composite cross population.

For better performance, constant maintenance and improvement is needed.

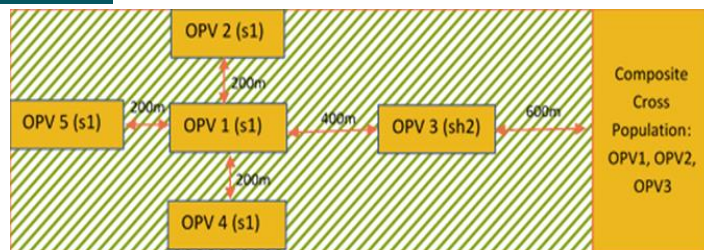


Figure 1: Simplified Design of a Sweet Corn OPV Seed Production and Composite Cross Population

 Other crop than corn, preferably tall

Min 200 plants/OPV; Min 200m between field edges for the same population type and 400m between different genotypes.

Practical recommendations

- In case of controlled hand pollination, make a detailed plan adapted to your objectives and resources – it is important to perform the pollinations in less than 2 weeks
- Select, note, mark and save the ears that fit your goals
- To reduce time, you can harvest the ears at physiological maturity and store them in a ventilated place
- Store different OPV seeds separately from each other
- Eliminate the seeds that are not typical for sweet corn
- Prepare in advance materials for pollination (paper bags, clips, scissors, markers, sanitizer) and a Field Notebook for your data input and traceability



Figure 2: Organic comparative trial of corn populations at NARDI Fundulea

Further information

1. [Publications and References about organic sweet corn breeding and seed production](#)
2. [Hallauer, A. R., Russell, W. A., & Lamkey, K. R. \(1988\). Corn breeding.](#)

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